

AMERICAN FARMER.

RURAL ECONOMY, INTERNAL IMPROVEMENTS, PRICES CURRENT.

"O fortunatos nimium sua si bona norint
Agricolae." VIRG.

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AGRICULTURE.

OBSERVATIONS ON THE AGRICULTURE OF VIRGINIA.

Made by the Editor of the American Farmer, on an excursion as far as the Red Sulphur Springs in the summer of 1820.

[The period referred to above, will be long remembered, not so much for the intense heat of any particular day, as for the long and uninterrupted continuation of hot weather. The sedentary habits, unavoidable in conducting this Journal, superadded to the confinement, incident to the management of a public office, had brought on dyspepsia, deranged the nervous system, and threatened the complete prostration of a hitherto firm and solid constitution. This exposition of a "private grief" is only made to justify absence from my official station, under the all paramount plea of self-preservation. My physician and friend recommended what is wisely advised in all dyspeptic cases—daily and free exercise on horseback—temporary abstraction from the fatigues and cares of business, and an abstemious and systematic course of living. Having concluded to adopt his advice, I determined to cross at Harper's ferry, and pursue my ride up the fine lime stone valley of Shenandoah. Accordingly on the 9th of August I left home, to view, for the first time, the most beautiful, and most bountiful portion of our country—and to taste the much renowned, and as I can now add from experience, the justly celebrated hospitality of the "Ancient Dominion."

It occurred to me that I might render an acceptable service to the readers of my Journal, by noting, as well as my health and imperfect opportunities would admit, whatever might fall under my view, which should appear extraordinary, either for its excellence or defects, in the Agricultural implements, habits, produce, live stock, &c. of the counties through which I might pass. The more I saw and reflected, as I journeyed on, the more I was convinced of the expediency of the proposition submitted by J. M. Garnett, to the Agricultural Society of Virginia, that a suitable person should be appointed to make "an agricultural tour through the best cultivated districts of the middle, Eastern and Northern States, for the purpose of collecting and publishing an account of the general condition of Agriculture within those sections of country, of their most approved process of Farming, and, also to collect either correct models, or accurate drawings of all such tools and implements of Husbandry as may appear to him worthy of being introduced among us."

The reasoning adduced by the mover of this proposition, is so clear and satisfactory, and the measure itself, to all appearance, so happily calculated to promote the knowledge and interests of agriculture, that I cannot forbear turning aside to copy here, a large part of Mr. Garnett's address.]

"Amongst the various means calculated to promote the principal objects of our institution, there are none in my view, that have higher claims to the patronage of our society, than the adoption of some plan by which we may speedily obtain for ourselves, and the whole agricultural portion of our citizens, a knowledge of the most approved process in farming, and of the best implements of husbandry now used in the most improved parts of the middle, northern and eastern states. It seems, at present a uni-

versally admitted point among all the agriculturists both of England and Scotland, that the rapid advances made by them in all the various branches of rural economy, are principally attributable to the frequency of agricultural tours undertaken either by private individuals, or by persons appointed for that purpose, by their numerous societies. The results of these tours, are usually published and diligently circulated, at least among agricultural people; the happy consequence of which is, that a busy spirit of inquiry is generated and kept alive; and that more useful information in regard to rural affairs has been acquired in a few years, by those who devote themselves to such pursuits, than they had gained or could possibly gain otherwise, in several previous centuries. Another most salutary effect of these tours has been nearly to explode that prejudice, still so fatally common with us—a prejudice worthy only of the darkest and most barbarous ages—that knowledge can be imparted by the instrumentality of the press on all other subjects, except Agriculture! the wondrous arts and mysteries of which, are incommunicable to our sensoriums by any thing in "your print hand," as Tony Lumpkin calls it. If such practices in those countries have been followed by such beneficial consequences, there can be no good reason, I think, to doubt, that they might produce the same, or even still more propitious effects here. And as this appears to be a period particularly favourable to missions and missionaries of almost every kind, whether chimerical or rational, I should hope that a mission undertaken for a purpose so obviously, so universally advantageous, could scarcely fail to meet with numerous and zealous, advocates in a society like ours. I confess too, that a little state pride has its share in prompting the wish to see a Virginia agricultural society move first in so laudable an enterprise. None can doubt, that much useful information might be collected in this way; nor can any believe that this information will be generally diffused through the country, unless it is first sought by men who travel for this special object; and who will afterwards publish the result of their inquiries in some printed form or other. If it be objected, that we have already books enough on all the subjects of rural economy, the answer is obvious. These books are chiefly foreign, and contain but little, comparatively speaking, which is entirely applicable to our country. So that it would not, I think, be going too far to say, that a single volume judiciously compiled, and well adapted to our situation and other circumstances, would be worth more to the agriculturists of this country, than all the Scotch, English and French books on husbandry, put together;—valuable as they certainly are in many respects. 'Tis true we have a few books of our own, which have ob-

tained a well merited popularity—but these only relate, either to particular sections of our country, or give the experience of but a few individuals. There are none, I believe, which pretend to give a general view of the state of agriculture, and rural affairs throughout the whole range of country embraced by the proposed scheme.

Many excellent practices are followed in silence and obscurity by that class of cultivators who pursue "the noiseless tenor of their way" far from the busy haunts of those who find their chief pleasure in talking, rather than in acting; which practices are known only within a very limited circle, and consequently are never likely to become public property until some enterprising and competent judge, shall make it his business to render them so. The same remark may be applied with equal truth to the tools and implements of husbandry, which every body acknowledges to be shamefully defective among us:—principally because it has never yet been attempted to collect and to circulate models and drawings of the best that could be found in such parts of our country, as are generally believed to have made greater advances in agriculture, than others. A century or two may yet elapse, before these become common, if we trust altogether to the slow progress of oral communication among neighbours, or to the accidental inspection of the few agricultural people who ever travel to any extent beyond their respective market towns. Even these, very rarely trouble themselves to collect information for others; or to diffuse it after it is collected. But if a person well qualified for the undertaking (and doubtless our society contains many such,) were at once appointed to make an agricultural tour, as early in the spring, as it would be proper to commence it, for the purposes above-mentioned, I feel no hesitation in asserting, that more might be done in a few months towards the attainment of the great objects of our society, than we shall do for many years to come, unaided by some such plan. The novelty alone of the scheme here, would attract towards it a degree of public attention and popularity, which would greatly facilitate the labours of the individual employed. Add to this, that being the known agent of a numerous and public association, such as ours, would of itself be a ready passport to all the best sources of information in every part of the United States through which he might travel. Let us only for a moment, imagine what would be our own feelings and conduct towards gentlemen deputed for a similar purpose, by any of the agricultural societies in our sister states, and we can readily judge of the reception and aids that would be given by our brother farmers of the North, to any one of our members, who might visit them in the same way. His advantages and opportunities

For attaining his object would be infinitely greater than those of any private individual whatever, travelling on his own private account with similar views."

That the project suggested by Mr. Garnett, has not been accomplished, cannot have arisen from any want of confidence in its useful tendency.—I take the liberty, therefore, of recommending to the *United Agricultural Societies of the State*, as coming, perhaps, more appropriately within the sphere of their consideration. As it is designed to offer my observations in short numbers, and as room and leisure occur; I shall here close this preliminary sketch, by admonishing the reader, that my future remarks, like these, will be offered in the plainest form, destitute of all fanciful embellishments, and truly without any pretensions on the score of ornament or humour. The object being merely to relate, in a manner, the most familiar, whatever, on a review of my brief notes, may appear calculated to convey some degree of useful information to my agricultural readers.

FOR THE AMERICAN FARMER.

ON THE CULTURE OF IRISH POTATOES IN THE MIDDLE STATES.

FRIEND SKINNER—

I observe that one of thy friends, in the *American Farmer* of the 23th ult. has requested answers to queries relative to the Culture of the Irish Potato,—

But I feel some hesitation in offering my experience and observations on two accounts—first, because the information is requested from the Eastern States, and secondly, I am better acquainted with agriculture, and making *implementations* to perform the same with, than with placing my ideas on paper.

Yet if nothing better should be offered, you may submit the following.

I am of opinion that the culture of the potato is not generally understood in this state—and the climate not so favourable as it is more to the northward; but much may be done by good management to obviate the causes which affect us. The seasons have been more unfavourable for the last four years than usual, in consequence of severe droughts, at the time of the bulb forming. To avoid this inconvenience, ought to be the study and care of Agriculturists.

The early crop should be planted as soon as the ground is dry enough, and forced forward as fast as possible, to get them matured before the heat and drought of July. Take land of a south easterly exposure, mellowed by previous crops, as corn, &c.—plant them in a fine spell of weather, which we usually have between the 7th and 15th of March. I recommend the mellow land, because it is sooner got in good order.—Plant in drills, and manure them on top; it will preserve them from frosts, which frequently follow; and the spring rains will rot the manure, so as to prevent its injurious effects in time of drought—and they will come earlier by sprouting the seed before planting.

As respects the late crop, in order to avoid the drought, plant late—the later the better, provided they mature before frost, which maturity may easily be known by rubbing the thumb

over the skin, if it does not slip the potato is ripe. I would not plant earlier than the 15th of June, and where the land is rich and well prepared, it might do a month later, especially near the tide water, or more to the southward, where frost is absent longer.—I would prefer a strong sandy loam—and low land is best, provided it is dry. If hilly land is to be planted, choose the northeastern exposure, and run the rows horizontally round the hill, without any attention to straightness of rows, by that means the moisture will be retained, which is all important in the culture of this root. As potatoes and corn, are the first crop in my rotation, I would break up the land intended for these crops in the fall, or early in the spring deep, and turn the sward handsomely over, and harrowed well, in order to close the seams, which will prevent grass from growing, and promote the rotting of sods—and let it lay so until nearly planting time—then harrow it well with a fluted harrow or drag, which cuts deep, and mellows the ground without bringing up the grass roots, which may be sufficiently rotted to plough.

The above will be sufficient culture in most lands, until planting time, before which, I make marks with a light plough all over the proposed potato field, about twenty feet apart, and cross these marks at right angles of the same width, making intersections at twenty feet distance, which will be a guide to the carters in placing manure heaps. I then commence hauling it out with two carts, one is loading while the other is unloading, each cart will contain from twenty to twenty-five bushels, and at each intersection put down a heap, dividing the load into three, and so on, until the manure is all out.

Some time previous to this, I prepare my seed potatoes as follows:—I pick out the middle and larger sizes of potatoes, of handsome round shape and cut them so as to leave three good eyes in each piece and dividing the rose end of the potato, amongst the pieces, as the eyes near the root end, will not produce well.

From time to time, as the potatoes are cutting sprinkle them with water—and sift some plaster on, and shovel them over, to mix them with the plaster, and lay them by, not more than three or four inches thick, and they will keep 2 or 3 weeks, and this is much quicker done than sowing on the rows, and answers the same purpose, coating the fresh cut potato with plaster, is of advantage in preventing its bleeding, which it is apt to do when applied to fresh or moist ground.—(Plaster is of great use to the product, where it acts well; on my land it increases the crop three-fourths)—Then commence planting in the following manner, place a hand or hands at spreading manure, which must be done equally over the ground, and not much faster than the ploughman ploughs it in, in order to prevent evaporation—and let him begin a land of forty feet wide, which includes two of the lands laid out for placing the heaps of manure, and after going one round, the droppers should follow, and drop the potatoes eight or nine inches apart—and while they are dropping these, let the ploughman lay out adjoining such another land—and then he and the droppers work alternately between the two lands, and have as many droppers as will keep the plough agoing. These

to drop in every third or fourth furrow, so as to make the rows three and a half to four feet wide, and this to cover about four inches deep in the same manner of stirring fallow. When thus done, the crop is nicely planted, the ground stirred, the manure ploughed in fresh from the heaps, and all left level and mellow—and the three operations of spreading, dropping and ploughing, all done at one superintendence for the late crop.—The manure is much best thus incorporated with the earth, on account of heat and drought, and there is no nutriment lost as respects the potato crop, for their small fibrous roots will extend from row to row—when the potatoes have sprouted about half way through the ground, harrow them with a light harrow across the rows, which will prepare the ground for them to come through; and also remove the young weeds—and as soon as the potatoes are up, and before they unfold their leaves, run a small plough close to the row, with the bar of the share next to the plants, and turn the furrow from them, and a sufficient quantity of earth will fall from the left side of the coulter to mould them—and cover the young weeds, and thereby do away the necessity of that expensive operation of hoeing—if the mould should cover the young plants, they will come up again—and in about one week, the vines will be large enough to plough the furrow to them—and before the vines begin to fall, plough the earth away as close as possible, and return it immediately, and plough out the middle, in order to flatten the row, for the broader they are the better—this will be done a little before the young potatoes begins to form, and taking the earth away, leaves it mellow, and pervious to the swelling roots—if done in the right time, this method is the least expensive, and affords the largest product of any that I have tried.

It may not be uninteresting to some of thy readers, to give them an account of my method of saving the crop, which I can do best, by stating how I managed a field of ten acres, nearly a square piece of land; I placed two carts so as to receive $\frac{1}{4}$ ths of the potatoes in the adjoining rows, as fast as they were picked up and the other $\frac{3}{4}$ ths were carried to the ends and deposited in holes made for their reception; the two horses which brought the carts, were hitched to the plough, and the ploughman ploughed one furrow off each side of the row, leaving a small middle where the potatoes stood about seven inches wide, and then run the plough under, and turn them handsomely on the top of the ground—and so regularly on with the ploughing—and had hands sufficient to pick up, as fast as they were ploughed out, and carried to the carts and heaps, which were placed in and at the ends of the rows they were at work in—other hands followed with hoes to search for what was left by the pickers up.—At breakfast, noon, and night, or oftener if it is required, the horses were hitched to the carts, and hauled their contents to the barn floor, under which is a cellar, or repository, and on lifting a trap door, the cart loads were shot in, and on their way fell on an inclined riddle made of strips, which separated the small ones, and secured the crop immediately from sun, air, and frost—and those which were carried to the heaps, were well covered as soon as any one of the heaps were

finished—so in this way they were secured as fast as one plough could plough them out, at the rate of 170 bushels per day.

Great care should be taken, not to expose potatoes long to the sun, as two days will make them too rancid for family use.

I was in greater haste on account of sowing the ground with wheat, which I did, and immediately ploughed it in, but if the wheat cannot be got in before the 20th of October, I prefer sowing Barley in the spring, and then wheat and clover; if the land is very rich, after barley, wheat, rye, and clover—or otherwise, after potatoes, a mixt crop of roots, answerable to the wants of the farm, say for instance, carrots, parsnips, mangel wurtzel, a part in early potatoes and then turnips. Next spring, the whole in barley, then well manured and set with wheat and clover—and by thus introducing two crops of roots—treble the stock could be kept on the same land—and this would provide the double dressing of manure, which would be wanting in the above rotation.

I have not become acquainted with better kinds than the early white for spring planting, and the blue potato for late planting.

I hope our friend H. W. will excuse my lengthiness, as I thought it might be of some small advantage to know my after management, at well as my method of cultivation, for if any crop costs more than it is worth, it is not worth having.

With much respect,

I remain thy friend,

ROBERT SINCLAIR.

Baltimore, December, 11th, 1820.

TO THE EDITOR OF THE AMERICAN FARMER.

MR. SKINNER,—Your paper of the 24th of November, brings me the strictures of the Virginia Farmer, on my letter to you, published in your paper of the 20th and 27th of October, on the subject governmental protection to American manufactures. I had considered this discussion closed on my part, having written two letters on the subject, and received two from my brother farmer, in opposition to my views and theory, apparently without any prospect of either producing the least effect on the opinions and views of the other. Dropping the subject, or entering on an unprofitable and interminable controversy appeared to be the only alternative left me; I therefore decline my friend's invitation to farther discussion. It is due however to his comity and politeness, on the receipt of his last letter, to subjoin a few desultory observations on the subject, without any immediate reference to the present state of the controversy, with a view principally to explain the doctrines I have advanced.

I am not so exclusively and abstractedly the advocate of the manufacturing interest, as the Virginia Farmer appears to consider me. I am a farmer, and have written principally with a view to benefit the general interests of the nation, and the agricultural interest in particular, and under the most solid conviction that it is an unwise and dangerous policy, for a country circumstanced as this is, abounding in all the

crude materials for the supply of its wants, and possessing the physical means of manufacturing them into articles of use, to throw itself in dependence, on foreign nations for indispensable necessities, such as food, raiment, and the means of defence. I consider this position self-evident, and disdaining the aid of argument for its support: but reference may be had to the experience and sufferings of the late and revolutionary wars, for the want of clothing and other military supplies, if proof should by any be required. An intelligent mind that does not discover in this naked proposition, or in the dear-bought experience of these wars, an important national interest, in affording encouragement and protection to the manufactures of the country, at least so far as to furnish a supply of these indispensable necessities, must be peculiarly constructed, and free from the general laws that influence opinions and regulate human actions. It would be a ridiculous waste of time to reason with one who denies the truth of this proposition.

So far I have advocated the protection of manufactures on the mere abstruse principle of national interest; but as a farmer, I had another and more immediate interest in advocating their protection, namely, the encouragement of agriculture, which at present is deplorably depressed in all the grain-growing sections of the country, for the want of a market. These sections have absolutely no market for their surplus products, no means of paying debts, or adequate means of purchasing the common comforts and necessities of life. In this state of things it appeared to me evident, that the increase and prosperity of manufactures must necessarily benefit agriculture: I was therefore desirous, and still am so, that they should be encouraged and protected in the markets of the country from a ruinous and unequal competition of foreign rivals.

Every one must know that manufactures require raw materials and provisions, the product of agriculture. In their present incipient state they create some demand for these products, and afford some relief to agriculture; this also I think evident and requiring no proof. Manufacturing cannot be carried on without the raw materials to be operated on, nor the people employed in these establishments be supported without provisions, nor can they procure these products of our soil, without a benefit accruing to agriculture. In conformity with this view of the subject, if our manufactures had been extended to the supply of our wants in clothing, which might readily have been done, had the importation of foreign fabrics, a few years since, been repressed within the amount of our exports, a home demand would have been created for our surplus products, that would have prevented or removed much of the prevailing distress and been highly beneficial to the agricultural interest. If labour should be diverted from the agricultural to the manufacturing class, by affording it encouragement and support, as some persons object, will be the case then will manufactures act with double effect for the benefit of agriculture. They will not only produce a market for its products, they will also relieve it of a portion of its labour, with which it is at present overcharged and oppressed.—

Its capacity to produce, is too great for the consumption of its products; hence the reduced prices and general distress in this class. This transfer of labour from agriculture to manufactures would diminish the production of agricultural products, thereby enhance their price, and promote the interest of agriculture.

I was farther impelled to a defence of the manufacturer's claim to protection on principles of natural right, and that reciprocity of burdens and benefits, in which all are entitled to participate under our happy form of government. It has been deemed correct to protect other branches of our national industry from foreign competition. Our tonnage and navigation have been protected by an immunity of the inland and coasting trade and by discriminating duties on foreign ships, &c. Commerce, and through commerce agriculture, have been protected at a heavy annual expense, for the payment of which, import duties have been laid and collected. Manufacturers have, in common with other classes, to pay these duties, and share these burdens; and when their interest is assailed in the markets of the country by foreign rivals, as at present, they have a fair claim on the principles of that reciprocity of burdens and benefits contemplated by the national compact to protection and support.

If the government had no occasion for the money accruing from import duties, there might have been some ground to say, "that agriculturists have been burdened by the payment of duties to make fortunes for the manufacturers." But circumstanced as the case is—the country in debt—the duties laid for the purposes of revenue—their entire amount used by the government for public purposes, and large loans required in aid of these duties, there cannot be the shadow of a pretext for such an allegation. The duties must have been paid by agriculturists, and every other class of society, if there had not been a manufacture in the country to protect. The manufacturer's benefit from the duties, is altogether incidental, arising out of the fiscal arrangements of the government, and no way burdensome to any one. My friend says the duties are so high as to diminish the revenue, but he offers no evidence of this fact, and I do not believe it is the case. The treasury reports will show that from the year 1815 to 1819 both inclusive, we have imported on an average upwards of twenty-five millions of dollars annually, more than our entire annual exports for these years, consequently so much more than the country could pay for by the surplus products of its labour in these years.—This to my mind is a conclusive evidence, that the duties are not too high for the purpose of revenue, and that an increase of revenue would have been obtained by an increase of the tariff, during that period.

My argument for the protection of our manufactures founded on the sufferings of the army for the want of clothing, and its consequent inefficiency and waste of American blood and treasure, has not been fairly met by the Virginia Farmer. He admits the sufferings of the troops, &c. but says, "the previous establishment of manufactures would not have remedied the evil;" and this is predicated on a suggestion that our factories cannot be supplied with

wool of American growth, but must derive their supplies of this material from foreign countries, which would be subject of the same hazard, delay and uncertainty as the importation of cloths from abroad. If the whole force of this objection be admitted, it only answers the half of my argument. More than half of our clothing is made of flax or cotton, native products of our soil. The Virginia Farmer will not say, that the country cannot produce a sufficiency of cotton for its own consumption. For one half of the necessary clothing of our armies then, my argument would stand good, in the event of having established manufactures in sufficient extent; and any argument founded on a supposed inability in the country to furnish wool for its own clothing is perfectly futile and a mere evasion of the argument. If my friend will cast his eyes on the map of the United States and its territories, adverting to its geographical position, and to its ascertained population, he must be sensible of the absurdity of his suggestion. No country in the world is better adapted to an abundant growth of this material, or possesses in a higher degree the means of supplying itself with the article than the United States. It has the advantages of almost unlimited extent of territory, suitable climate, the necessary food for sheep, and the possession of flocks, *that in a few years*, might be increased to any necessary extent for the supply of the country with wool. All that is wanting to a rapid increase of the quantity is the assurance of a steady demand by the means of factories protected from the hostile attacks of foreign nations. The whole of the Virginia Farmer's argument on this part of the subject, is derived from premises, *if not wholly incorrect*, extremely doubtful and uncertain, from which no certain conclusion can fairly be derived. His other objection to American manufactures founded on an assumption, that their fabricks must necessarily cost the consumer 25 to 30 per cent higher than the same articles of foreign fabricks is equally unfounded. Most of the cotton goods now made in the country are selling at 25 to 30 per cent lower than goods of like quality can be imported for, paying freight and duty and other charges; and woolen goods, *in the manufacture of which, a great proportion of manual labour is required*, probably at 12 to 15 per cent lower. I need not prove this, he can satisfy himself of the fact by comparison. It is probable if we had no import duties on foreign goods, that they could be imported at about the price domestic articles of the like kinds are sold for in the market. But here I suppose he will say, that this shews the duty to be sunk to the consumer for the benefit of the manufacturers. As it appears impossible to convince my friend of his error on this subject, to remove this stumbling block out of his way, I must agree that he may repeal the duties, and withdraw this principal source of revenue from the government, if he thinks agriculturists can pay their portion of the public expenses easier by a tax on lands, or slaves, or other property, or in any other way that they may deem most convenient. His acceptance of this proposition is the only mode I can suggest to convince him of his error, or remove his groundless complaint. He would then be rid

of this odious duty, that he thinks he pays for the benefit of manufactures, but his payments for the support of government would not be lightened by the repeal of the duty. The mode of collecting the money from him would only be changed; now he pays in the enhanced price of the dutiable goods he consumes, and the importer accounts to government for the duty, but under a repeal of the duties he would pay on an account rendered against himself for the amount of his tax, according to the extent of his taxable property. Every man must contribute to this fund in some form or other, and I am willing that agriculturists should contribute in that way that is most to their liking, whether by duties, taxes or excise or otherwise, although *for myself*, I would prefer contributing by the payment of duties, to any other mode by which the public revenue can be raised.

Many other of my brother farmer's objections to the encouragement of domestic manufactures, and I might say, of domestic industry generally, are equally groundless with those I have noticed, being for the most part founded on facts not admitted, and equally unsupported by any fair logical argument; but I did not deem it necessary to pursue his entire course, and controvert all his grounds of objection, which I conceived untenable. In his laboured argument, to show that the country is incapable of supplying its armies with clothing, *from its own internal resources*, even if factories were established, he has not adduced one solitary fact, from which any conclusion can fairly be derived, in support of his position. It is the same with his attempt to prove that the import duties paid by agriculturists on articles of their consumption, is paid by them to make fortunes for manufacturers; and in his argument to show the deleterious effect of manufacturing establishments, on the health, morals and pecuniary interests of the people they employ. In all these, and some other points of the discussion, he argues from premises equally doubtful and uncertain, with the facts he wishes to deduce from them.

Hitherto the discussion with my Virginia friend, has been confined to the claim set up by manufacturers to protection from foreign competition in the markets of the country. He has opposed their claim in every shape, and on every ground on which it can be placed, but has said nothing against the privileges and protection afforded to other classes of society. His last letter however takes a wider range; he there declares himself opposed to "all privileges, restrictions and bounties." This is a new subject, on which I am not disposed to enter, and the more especially, as he has not said whether he would pursue this course, without regard to the policy of other nations, with whom we have commercial intercourse, and without regard to the public debt, the fiscal arrangements and particular circumstances of the country; or whether he would adopt it only in the event of other nations adopting a similar policy, and at a time, and under circumstances when it could not interfere with the pecuniary arrangements and general interests of the country. At the first view of the subject and without considering the merits of this new scheme, it would appear that a repeal of the

duties, privileges and bounties would *at the present moment*, be a hazardous expedient, and the result burdensome and oppressive. I include duties in the repeal, because all duties are restrictive in their nature and operation, but it is not my intention to discuss this subject with my brother farmer, and despairing of any beneficial result from a farther prosecution of the controversy, I dismiss the subject and take leave of my friend with the most perfect respect for his talents and the courtesy of his manner, and with sincere regret, that his information on many of the subjects that came under discussion, had not been more correct.

A MARYLAND FARMER.

Treatise on Agriculture.

SECTION XIII.

OF FARM CATTLE.

These consist of horses, mules, cows, oxen, sheep and hogs. It is not the object of this paper to discuss the relative value of animals of different kinds, nor to explain the principles on which an individual of either kind, is preferred to another individual of the same kind, but merely to indicate the uses of each, and the modes most approved for giving extension and value to these uses. And 1st of the Horse:

Of this animal, naturalists admit but one species, but many and widely different varieties, which are again subdivided under the denomination of races. (1) At the head of these, by common consent, stands the horse of Arabia and after him, the Persian, the Barb, the Andalusian and the English. His flesh not entering, like that of the ox, into the general and ordinary subsistence of man, (2) he is valued only for the beauty of his form, the nobleness of his carriage, the rapidity of his march, and the strength, spirit and patience with which he bears the heaviest burthens and the most excessive fatigues.

Of these powers, some curious and extraordinary instances are recorded. The couriers of Russia travel from Petersburg to Tobolsk a distance of 19° 26 m. in twelve days. Their rate of travelling is of course, about one hundred miles a day. What, in equestrian phrase, is called a great mover, will, without pressing, trot 640 yards in 80 seconds, and if pressed will go over the same distance in 50 seconds.—In the first case, the rate of moving is 5 feet 3 inches per second, and in the other, 8 feet 5 inches. The Roman horses, probably descendants from Barbs, run at the rate of 27 feet the second of time, and the British horse Childers, is said to have run at the rate of 45 feet 5 inches, and Sterling, another British horse, at

(1) Bakewell and others have shewn, that you may multiply these races at will. By selecting two individuals, of any given shape, size and colour, which you may prefer, you secure a progeny, having all the qualities of their parents. This observation applies as well to horned cattle and hogs, as to horses, and might be usefully taken as a rule of conduct in this country.

(2) Horse flesh is eaten by the Negroes of Africa, the Arabs, Tartars and occasionally by the Chinese.—Page 213, vol. 22d Buffon's Nat. His.

the rate of 82½ per second. (3) This may be regarded as the maximum of horse speed.

The ordinary load in France, of a four wheeled wagon, drawn by six horses on a pavement, is 10,000 pounds. That of a cart drawn by four horses, 5,500. With these loads they travel 10 leagues a day for six weeks together. A single horse has been known to draw 500 pounds at the rate of 140 yards in 112 seconds, and on the pavements of London, a single horse has drawn 6000 pounds for a short distance, and 3000 for a considerable distance and with facility. This appears to be the maximum of horse power in drawing.

Under the pack or saddle, 300 pounds is the ordinary load for a horse, but according to M. Thiroux, a dragoon horse carries 340 pounds—This includes the weight of the rider and of his arms, accoutrements and baggage. The well known experiment of Marshal Saxe, shows the maximum of horse power, in this respect. He directed, that a strong and vigorous horse, while in motion, should be loaded until he fell. The effect was not produced, until the load amounted to 1,200 weight. (4)

II. Of the Mule.

This is the well known product of a jack and a mare, or of a horse and a jenny, the name given to a female ass. The advantages over the horse are, that they are more patient of hunger and heat, are less nice or delicate with regard to their food, sustain better and for a longer time, fatigues of all kinds, carry heavier burthens, are more sure footed, less liable to sickness and live to a much greater age. In Italy and Spain, they are much employed in harness, and in the mountainous parts of those countries, for the saddle. Their value and qualities, however, depend principally on those of the sire; if he is large, active, and strong, his progeny will be proportionably valuable. Nothing, therefore can be more ill judged than employing small jacks. (5)

III. Of the Cow and the Ox.

It was long supposed, that this animal was a native of Europe, and that the Auroch, found wild in the forests of Poland, was the type of the species, the researches, into comparative anatomy, of Cuvier, have overthrown this creed, and men of science now substitute for it another,

(3) British Zoology for 1763—4. In Peru, are two races of horses, (originally Andalusian) well worth the attention of the rich amateurs of the U. States. The names by which these races are known, are the *Parameros* and the *Aqualillas*. See Ulloa's voyage, tome 1. page 370. In Chili also is a race, which for beauty, action and hardiness, may be compared with the horse of Arabia, and with this advantage, that they are very cheap, while those of Arabia, are very dear. See Molma's Nat. Hist. of Chili, pages 505 et seq.

(4) See Fourcroy (of the corps of Engineers) on the powers of the horse, quoted by the *Nouveau Cours d'Agriculture*.

(5) The Asses of Arabia, Egypt and the Barbary coast, are the best. In Sicily is a race of inferior size, but of great powers. See Sonini's supplement to Buffon on this animal.

The editor of the Farmer has procured one from Malta, 14 hands high, very vigorous and high spirited. He will stand to cover mares next season, at \$10 each. There is not perhaps, in the world, a finer animal of his kind, he will not be let to more than forty. Those who wish to have large mules had better speak or engage by letter in time.

viz: that the cow is a native of Asia, and has thence been translated to other parts of the globe. Be this a fact as it may, her uses are so

many, so various and so important, that we cannot hesitate to transfer from the horse the distinction bestowed upon him, by an eloquent writer of the last century, and to pronounce her, "*the noblest conquest made by man.*" (6)—During two thirds of her life, (which may be protracted to twelve years) she is annually producing her species, and during the same period, yielding an abundant supply of that beverage, so universally known and so generally acceptable, so happily adapted from its compound nature (part animal and part vegetable) to all ages and conditions of man; to the young and to the old; to the poor and to the rich; to the sick and to the sound, and which in its concrete forms of butter and cheese, has in all civilized countries, become an article of the first necessity. Nor is her value diminished by death; for having been fattened and prepared for market, her flesh forms our most savoury and substantial food; her tallow in the form of candles, supplies the absence of natural light; her skin, wrought into leather, furnishes shoes and other articles, rendered necessary by habit or custom; her horns, are converted into combs and lanterns; her blood is essential to the refinement of our sugars; chemistry draws from her hoofs important uses; and her hair is made to pad our collars and saddles, and by entering into the construction of our buildings, adds to their beauty, comfort and solidity. If in her progeny, (the ox) strength and speed be less combined than in the horse, it will be also remembered, that his subsistence is cheaper, and his labour more continued and persevering; that he is besides, less liable to accidents which diminish his value, and that he may even become lame and blind, without eventual loss to his owner: for when prepared for the shambles, like his parent, he gives us beef, tallow, &c. and those of a superior kind. How important then is it, that this useful animal should be multiplied, and that pains should be taken to ameliorate the breed. In England and in Holland, wealth, enterprise, and philosophy have combined, to exalt the character of domestic animals, and the effect has been to create many new, artificial, and more perfect races.—These are examples we ought to follow, and these are the countries which can best enable us to do so.

It has however, been found, that in temperatures, either very hot or very cold, the bulk of the cow is diminished, and though it is by no means verified, that animals secrete milk in proportion to their size, still, on other accounts—the largest cows may justly be considered the best. Treatment, or the quantity and quality of food, has a still more decided influence than climate, on animal growth and development, and hence it is, that when the cows of England, Holland, or Switzerland, are transferred to pastures less abundant or nutritive than those in which they have been reared, or are otherwise put on shorter allowance than that to which they have been accustomed, their qualities degenerate, and their progeny with them. The

(6) Buffon's Nat. Hist. vol. 22.

lesson that these facts inculcate, cannot, we believe, be mistaken, and will not, we hope, be overlooked.

IV. Of Sheep.

Of the different races of sheep, we shall speak only of two, those of Spain and England; because, in them, are best united the two great objects for which this animal is reared—*wool* and *food*.

The sheep of Spain, generally known under the name of Merinoes, are composed of two classes, the *travelling* and the *stationary*. The former of these, is again divided into two distinct races, called the *Leonese* and the *Sorian*; while the latter, composed of a number of degenerate breeds, are denominated *Charras*.—The Leonese and the Sorian winter in Estramadura, and are never parked or housed, excepting for fifteen days of each year; at the Esquileous, or shearing houses, near Segovia.—After this operation, their march to the mountains begins in two columns; the one, to old Castile and the kingdom of Leon; the other, to the province of Soria, and, subsequently, to Navarre or the Pyrennees. The preference of the Leonese to the Sorian, is sufficiently established by the fact, that the wool of the former sells for one fourth, and sometimes for one third more than that of the latter. But even in this pre-eminent race, there is a marked difference between the different troops composing it; those of the late Prince of Peace, of Nigretta, of Montaco, of Peralez, of Fernando Nunez and of l'Infantado, are particularly distinguished by the fineness, and what, in technical language, is called the *nerve* of their wool.

The policy of Great Britain was early directed to the amelioration of sheep. It is, however, to Henry VIIIth and to Elizabeth that the praise is particularly due, of importing into England, sheep of the finest Spanish races; of promulgating rules and regulations for their proper management, and lastly, of commencing that prohibitory system, which has secured their continuance, and what is of still greater importance, the *exclusive* fabrication of the wool they produce. It was not, however, in the power of laws, entirely to abrogate, or even materially to alter, the effect of climate. That of England did not so much favour the production of *fine* as of *long* wool, and hence it is, that the wool of that country is not so remarkable for the former, as for the latter of these qualities. But in all cases, when our object is to unite the two great products of *wool* and *flesh*, it is to their breeds we should look for the best means of doing it. The flesh of the pure Merino is neither so abundant, nor so well flavoured as that of the mixed races, and when brought to the greatest perfection, the quantity of his wool is less.—His carcass, when prepared for market, does not exceed 10 pounds a quarter, and the average weight of his fleece will not rise above 4 pounds; whereas the best English races give 25 pounds the quarter, and fleeces weighing 7 and 8 pounds each.

V. Of the hog.

The wild boar is considered the type of this species, of which there are several varieties.—The most distinguished of these are, the Asiatic or Chinese hog, the European hog, with long,

broad and pendant ears, and the Solipede, or horse-hoofed hog of Sweden (7.) As this animal is principally useful as food, the improvers of the species have aimed only at farming a race which, with the least expense and in the shortest time, should acquire the greatest bulk and the highest degree of fatness. It is on this principle that the Chinese hog, which fats promptly and easily, but which attains only to a small size, is with great propriety mixed with the hog of Europe, which acquires a much greater bulk, but is proportionably slow and difficult of fattening. The result of this mixture has been many improved races, at the head of which stands the hog of Parma, and those known in England by the names of the *Bakewell* and *Byfield* breeds.

The weight of the hog, at eighteen months or two years of age, (taking for granted a regular and sufficient nourishment,) varies from two to four hundred pounds. Buffon mentions a hog killed in England, which weighed 853 pounds. Sonnini, his commentator, mentions another, killed in France, which weighed 990 pounds; and Mr. Jefferson a third, killed in Virginia, which reached the enormous weight of 1200 pounds. (8)

The value of the hog is increased by their natural fecundity, which much exceeds that of any other species of domestic animal. This subject was thought worthy the pen of Marshal Vauban, who left behind him a manuscript calculation of the offspring of a single sow. The paper was read in the Institute of France some years ago, was heard with great interest, and gave an enormous result, but not sufficiently recollected to be stated here.

As, from the constitution of the human mind, there have been sceptics on all subjects, little and great, so on this we find some doubting whether the hog did not, from his insatiable appetite, consume more, during his life, than the amount of his value at the time of his death. These doubts could not fail to engage calculating men, in ascertaining this point. Their experiments show a profit of eight dollars on every hog, reared and fed to the age of two years, by persons having no farms and obliged to buy every article going to their nourishment. How much greater, then, the profits of those who have the means of subsisting them on grasses and roots, which cost only the labour of raising?

To these specific remarks upon different animals, we now proceed to add a few observations on the breeding of cattle, and a brief view of the general principles on which the fattening of such of them as enter into the subsistence of man, more peculiarly depends. And,

1st. Of the breeding of cattle.

It rarely happens that the breeders of cattle are the fatteners of them. The first of these employments seems more particularly to belong to those who, (other circumstances being favourable,) are remote from markets; the second, to those who, from local situation or navigable

streams, are convenient to markets. In the breeding business, two conditions are indispensable to its success. 1st. That the *sires* of each species be well chosen; because their qualities and appearance have much more influence on the character of the offspring than those of the females; and 2d, that, during pregnancy, the females be abundantly fed, and otherwise subjected to no hard or injurious treatment. (9)

2d. Of the fattening of cattle.

The objects in fattening cattle are two—the increase of tallow, which is an important article in domestic economy; and the improvement of the fleshy or muscular parts; it being found that the lean meat of fat animals was better flavoured and more nutritive than that of poor ones. The means of effecting this object are, either living vegetables, or those which have been cut, dried and stored for use. Under the first head are the whole family of the grasses, and under the second, grains, roots, peas and beans. When we resort to the first, the only care necessary is, that the provision of plants be both abundant and nutritive. Upland pastures, where they unite these conditions, best fulfil this intention; but the fat of cattle thus fed, though better distributed, (the effect, as we believe, of exercise,) is less in quantity and of an inferior quality. The second mode, which is called *stall feeding*, is more difficult and expensive, and requires great attention to the repose of the animal, to his cleanliness, and to the caprices of his appetite. In England, where this business is most practised and best understood, they envelope the head of the fattening animal in several folds of woollen cloth, so as to deprive him, in a great degree, of the power of hearing, and altogether of that of seeing. The doors of his stable are opened but once a day, to change his litter, and his food and drink are given through loop holes opening into his manger, which are afterwards immediately closed. With respect to feeding, the first rule is, to give little at a time and often; because experience has shown, that animals that eat much in a short time do not fatten so well as those which eat less, but more slowly and frequently. The second rule is, to begin the course with cabbages and turnips; then to employ carrots and potatoes, and lastly, Indian, oat, or barley meal, the marsh bean or the gray pea. These aliments ought to be varied five or six times a day, and oftner if convenient; and instead of always reducing them into flour, there is an advantage in sometimes boiling them. A little salt, given daily, is very useful, and for drink clean water, but neither frequently nor in great quantity. Warm water, by its temperature, most favours digestion, but if long continued, will enfeeble the stomach.

It ought therefore to be employed only towards the end of the term. The fattening is complete, when the superficial inequalities of the animal, whether muscular or bony, are filled up; when his body presents only a round and

smooth surface; when he becomes drowsy and inert, dislikes motion and apparently insensible to every thing about him. These are the signals for death, and the sooner you inflict it after their appearance the better; for should the feeding be farther urged, you run the risk of inducing the disease called the *melting of the grease*, or, in more scientific language, the re-absorption of it, by the blood, which is always fatal.

They who are at all acquainted with the subject, on which we write, need hardly be told, that there are many circumstances, independent of food, cleanliness and quiet, which influence the fattening of cattle. We shall mention them separately, and add a few words to each, in explanation.

1st. *Constitution*. If this be not sound and healthy, no care nor expense will be sufficient to correct it. The animal will want appetite or have too much of it, and what it eats will not better its condition.

2d. *Castration*. The flesh of males is hard, fibrous and ill-flavoured, and that of females, not spayed, far inferior to the flesh of those which have undergone that operation. Where the testicles in the one, and the ovaria in the other, are early and completely removed, the animals become more docile, less restless, and fat with great facility.

3d. *Temperature*. Whoever makes the experiment will find, that this consideration is very important. The cold of winter, the heat of summer, and the capricious character of the spring, are all adverse to the fattening of cattle, though perhaps not equally so. The autumn, on the other hand, long and temperate, is the true season for that business, not only from the greater abundance of food which is then to be found, but because the perspiration of the animal is then first checked, and immediately converted into tallow. And

4th. *Age*. Tallow is formed from the surplus nourishment given to animals, beyond that necessary to their mere physical development; whence it follows, that those which have not attained their full growth are fatted with difficulty, and only by extraordinary means. Calves, for example, can only be fatted by great quantities of milk, to which must often be added, eggs, barley or oat meal, or the flour of beans and peas; and with all this abundance and selection of food, they yield little if any interior fat or tallow. Whereas oxen, at six years of age, with correspondent treatment, give large quantities of that article. Old cattle are also, from loss of teeth, debility of stomach, or other internal disorganization, difficult to fat. These facts sufficiently indicate what, on this head, ought to be our practice: to fatten cattle as soon after they have attained their growth as possible. Oxen generally attain their growth at five or six years, and sheep and hogs at two.

Extracts from an active member of the Agricultural Society of Kentucky, dated Lexington, 15th December, 1820.

I send you,—

1st. Some Indigo seed, such as is cultivated in the southern part of the United States. Some of your friends might wish to have this plant as a

(7) This is the *Sus angula indivisa* of Linnæus. Aristotle was the first to mention this species and after him Pliny. Linnæus says, it is common in Upsal and other cantons of Sweden. *Amenitat. Acid.* tome 5, page 450.

(8) Notes on Virginia.

(9) The inhabitants of the Boulonais, in France, employ the mare instead of the horse, for all agricultural purposes; because, besides labouring the soil, they give yearly a foal, which they sell at eight months to the graziers of Normandy.

curiosity, or variety, if it deserves either character with you.

2d. Some Woad Seed, *isatis*. I have always understood that the "*woad vat*," was indispensable in fixing the beautiful blue colour on cloth; it is a plant easily cultivated—not only fixes and beautifies the indigo, but lessens the quantity of that very dear article in colouring, it is also valuable as winter food for sheep and cattle, the severest winter frosts not affecting it; during the severest frost last winter it was as green as in May.

Bancroft, (Philosophy of permanent colours) says the French government have lately caused it to be cultivated for the purpose of obtaining indigo from it, by a process analogous to that employed with the indigo for tinctoria. Culture introduced into England, 1576. Mr. Hume tells us the culture was prohibited by Elizabeth, the fermentation of the plant giving offence to her olfactory nerves.

3rd. A part of the head of a Sugar Cane plant of my own raising. I have had this plant examined by several gentlemen, who have lived in the West Indies, some of whom have owned sugar plantations, some say it is sugar cane, some say it is not sugar cane, and some say it is a species of cane, no doubt it is a cane or reed of some kind. I got the seed about as much as I now send you, this time last year from Judge Brodnax, who informed me, that it had been cultivated in Logan County, 1½ degrees south of Lexington, producing at the rate of 400 gallons of Molasses to the acre, they did not succeed in making sugar. Judge B. is a man not easily imposed on in such matters; I gave full credit to his information—plant it in March in rich ground, warm exposure, in drills 4½ feet apart, two or three seed in a hill, 2 feet apart, its first appearance is something like broom corn, puts out a great number of succours, which must be carefully cut off with a knife; let only one plant in a hill grow.

I extract the following from McDonald's Gardening Dictionary: "There are three remarkable varieties mentioned by Loureiro, differing in the culm, not in the flower; the white sugar cane, with the culm long, white, of middling size very sweet, the knots distant; the Red Sugar cane with the culm short, thicker, red, very juicy, the knots approximate. The Elephantine Sugar cane, with the culm very thick, red, long, less sweet, the knots approximate; and there are, probably, no others in a plant so much cultivated."

The characters are, that the calyx is a two valved glume, one flowered; valve oblong, lanceolate, cuminated, erect, concave, equal, awnless, surrounded with long lanugo at the base; the corolla two valved, shorter, sharpish, very tender, nectary two leaved, very small; the stamina have three capillary filaments, the length of the corolla; anthers somewhat oblong; the pistillum is an oblong germ; styles two feathered; stigmas plumose; there is no pericarpium; corolla evests the seed; seed single oblong.

4th. Vernal or sweet scented grass seed, same culture of timothy, much like timothy, and earlier grass, delightful odour from the grain, blades, from the hay, blossoms, or seed, of which

you may be convinced by smelling the paper containing these seed.

If you have not this grass, would thank you to give a part of the seed to Mr. Robert Smith, a few of the blades either cured or green put into presses or drawers where clothes are kept, converts a disagreeable to an agreeable scent.

5th. Seed of the pride of China, of which I know nothing, have lately received them from the south.

6th. Some acorns of the large white oak.

7th. Teazles or clothiers brush, used by the clothiers for raising the pile on their fine cloths,—the art of man has not yet discovered a substitute for this plant. I have no doubt but the persons interested in the woollen manufactures in your neighbourhood, have this plant as well as the woad in cultivation. Cards are used to raise the pile on common and coarse cloths—will not do for fine, if made sharp enough to take hold, breaks the threads—not so the teazle, it takes hold and lets go, so as to raise the pile without injury.

Extract from a letter from a member of the Agricultural Society of Albemarle, Virginia.

JOHN S. SKINNER, Esq.

Sir,—Millet, ground into meal is, at least as good a substitute for chocolate, as "prepared rye" for coffee. In my immediate neighbourhood, it has been pretty thoroughly tried by many of the most respectable families, and all concur in bestowing on it high commendations. That it may be more perfectly tested, and its excellencies more generally known, I have sent you, via Fredericksburg, a few pounds which will probably reach you as soon as this letter. I hope you will give it a fair trial. Boil two or three table spoonful in 3 pints of water—add thereto one pint, or somewhat less of milk and a piece of butter the size of a nutmeg—strain or carefully decant, and sweeten to suit the palate. Thus prepared, it so nearly resembles chocolate, both in colour and taste, that a connoisseur only can perceive a difference.

I am engaged in a pretty extensive course of experiments, to ascertain the comparative value of Millet as a grain, the results of which I shall hereafter make publick. I am sanguine in the belief, that in rural and domestick economy, it is but little, if at all inferior to any grain of which we are in possession.

Although my name is not on the list of subscribers to the American Farmer, I consider myself as one of its patrons. The 1st volume I am in possession of, being a member of the Albemarle Agricultural Society, and design to purchase the subsequent volumes annually. I am greatly pleased with the work, and cordially wish you the success, your labour merits.

ON THE PENNSYLVANIA MODE OF Getting out Clover Seed.

Observing in the last number a request for "information on the best mode of separating the seed from the head or pod of clover." It is a subject that I have paid some attention to for some years past and observed the various machines constructed for the purpose in Chester and Lancaster counties; perhaps two of the

first counties that became eminent in the culture of clover in the State of Pennsylvania.

And perhaps as much ingenuity exercised in mechanism for the facilitating the operations of farming as any other section of the Union. The present state of cultivation and the limited number of hands to each farm, as a decided proof of the fact.

Much of the seed of clover is now taken out of the chaff by mills constructed for the purpose, although considerable is yet trodden out by horses on the floor of their commodious barns. One instance of a late date, I cannot in justice to the inquiry omit.

Being in Philadelphia, and amongst the clover seed dealers, when a German farmer arrived with a wagon load of clean seed of the best kind, *seventy-one bushels*, a joint concern between him and his brother, on inquiry, their crop I found amounted to one hundred and thirty bushels, all taken out by treading of horses. The buyers, I also found preferred it to that which was taken out by mills, not being in any way injured by the mill, but by reason of the milled seed not being so perfectly clear; in the operation of milling, the broken fragments of some part of the straw or other substances so near the size and weight of the seed are visible, not being so readily separated with the fan as that trodden out by horses.

Yet I did not find it so objectionable as to make much difference in price, but there was a preference in favour of treading.

But as it regards ease and facility to the farmer the mills are preferred; he has only to thresh or tread it off, and separate the chaff and pods completely from the straw and stalks and send it to the mill, he receives the seed fit for the market by paying the toll of one tenth to the miller for his labour.

Those mills are erected mostly in a situation commanding a circuit of five or six miles round them, and in that distance they get as much work as employs them three or four months through the winter; if well constructed one man and boy are sufficient to attend, except a press of business to require running night as well as day, which will require another hand.

A moderate water power will drive one pair of stones, constructed in the movement on the same principles as for grinding grain, but the stones are of the softer granite kind, as they must not come into close contact like the grinding of grain; in that case they would bruise the seed, which must be carefully avoided by having them well adjusted to their business; the face of the bed stone true and level, the runner true also, and a large eye or hole in the centre and well hollowed to receive the soft, chaffy substance readily, and a true face of seven or eight inches of the outer skirt of circumference to cause friction enough to do the business without any furrows in either of them, but picked rough.

As the seed passes from the stones it is fanned, and what is shed out passes off through a screen or sieve, and the light, dusty part of the chaff is blown out at a window, the remaining heavier chaff that has seed yet remaining in, it is raised by elevators and falls by the stone in order to go through again: all this is done by the water power and is continually going on with regu-

larity until the parcel more or less becomes finished.

This is the general principle of the mill operation, and perhaps as much as is necessary to say without going into a minute specification.

Any person who wishes to erect mills, I should advise to examine those in operation, as this is the season they are generally at work and satisfy themselves, as there are various modes of construction though all on the same principle. I have seen them with the under or bed stone running instead of the upper one; it had one advantage, there was no obstruction of the feeding in the seed through the eye of the upper one, yet it might have its disadvantageous complexity in other parts.

Upon every consideration, I am ready to believe where much clover is cultivated the mill is decidedly the best plan for despatch, although an unpleasant and I might say, unhealthy business for the miller on account of dust.

A neighbouring farmer last season threshed off his clover from the straw, the product of eleven acres, and carried it to the mill, which produced twenty-two bushels, and left him twenty, or there-about, after paying the miller's toll, he considered it much easier than to encounter the treading out that quantity in his barn, as he was weak handed, his whole force was one man and boy beside himself.

Those who are more than five or six miles from a mill, think the transportation, together with the loss of the offal for manure, to over-balance the gain by milling, and they mostly tread out with horses, as they take frosty, winter weather, when snow is on the ground; and this serves for in-door work; all is saved, no toll to pay nor offal lost from the manure heap.

Perhaps information may come on this head from other quarters, it will then be seen how different neighbourhoods agree on this business, but if any thing better appears, the editor will please to suppress the foregoing sketch of the subject.

C. KIRK.

NOTE.—When barns are wanting, the mill must be preferred.

Brandy Wine, 27th 12th Mo. 1820.

DIRECTIONS FOR CULTIVATING SEA KALE.

The best time for putting in the seed for the Latitude of Maryland, is, from the 20th of March to the 1st of April, about the time of planting early potatoes or early beets.

Choose the highest, dryest and poorest part of your garden; if it be sandy, so much the better; lay out a bed about five and a half or six feet wide and forty or fifty feet long, in this bed, plant the seeds in rows; let the hills, or spots in which the seeds are deposited, be about two and a half feet apart each way, so that each stool or plant, may grow at that distance from every other.

Put five or six seeds in each place in order to provide for the failure of some, which frequently occurs. When the plants have come up, and made five or six weeks progress, so as to show their vigour, then pull out from each place all but one stool and let the most thrifty stool remain.

The seed may not come up for five or six weeks after planting, and as the weeds will appear much earlier than this seed, it is best to mark the place of each deposit with a small stick, so that in pulling up the weeds, the kale may not be pulled up also. The first season all you have to do, is to keep the ground around each plant clear and loose: as winter approaches, the leaves will die, and the whole plant seems to be decaying. Cover it with straw, or leaves, or any other light thing to protect it from the frost during the winter; and in the spring, as soon as the frost is out of the ground, let your gardener dig about each plant or root (for it will somewhat resemble a coarse beet) and loosen the earth, and having done so, let him cover each plant with a large garden pot, or wooden box,* or if neither of these be at hand with some sand, forming a little hall about fifteen or eighteen inches high. The object is that the kale should grow bleached, and for this purpose, that the light and air should be completely excluded. After it has been covered about four weeks take off the pot, box, or sand, and you will find a number of beautiful shoots, as white as snow, beautifully tipped with violet. These are to be cut, without injuring the crown of the plants, and dressed and served up with butter, just like Asparagus, excepting that the sea kale requires considerable more boiling than the Asparagus. After cutting each plant once, the pot, or box, or sand, ought to be left off, and the plant suffered to grow during the rest of the season, which it will do very thrifly, and bear abundance of seed.

If the plant should not be very thrifty the first summer, that is, if the leaves which lay near the ground do not cover a space of at least eighteen inches in diameter, during the first season, it ought not to be covered for bleaching the next spring, but left to grow uncovered another year, when it will have attained vigour enough to undergo this treatment. These plants never require any manure, and when a bed is once completely gotten into operation, it is like an Asparagus bed, Perennial, and will last a life time.

I would advise to break a portion of the capsules of the seed when planting them.

JOHN C. WILSON.

* I have used the half of a flour barrel for covers, which answer well, instead of pot, box or sand. Saw a flour barrel in two and it will make two covers, by putting in an extra head.

On Wednesday last the citizens of this village were gratified with the novel procession of thirteen wagons loaded with pork in the hog, raised and fattened this season on the farm of Mr. Daniel Gidley of this town. The whole number of hogs fattened by Mr. Gidley, is 102, they weighed 23,630 lbs. and were killed and dressed in thirteen hours and a half by twelve men. Great praise is due to Mr. Gidley for his industry and good management, his equal, as a farmer, is seldom found, perhaps not exceeded in this state.

[Poughkeepsie Observer.]

THE FARMER.

BALTIMORE, FRIDAY, JANUARY 12, 1820.

The skill and courtesy with which the controversy has been conducted between "A Maryland" and "A Virginia Farmer," have made it unpleasant to interpose. The combatants stand, however, at so great a distance, that in the long intervals occurring between each thrust, by-standers forget to sympathise with either, and they are left as it were to the cold and solitary satisfaction of fighting alone. It seldom happens, that both parties are willing at the same moment to be separated. He who gets a black eye begs first to give to the other a bloody nose, and so they fight on, until, like the Kilkenny cats, they eat each other up. In this case as the Maryland Farmer let slip the first shot, we offer the Virginia Farmer the last fire and there the controversy in its present form had perhaps better end. The subject itself is one of vital importance to the country, and we are obliged to the two writers in question, both of whom are unknown, for the light they have shed upon it.

PRICES CURRENT OF PRODUCE.

Baltimore, Friday, January 12th, 1821.

Present Prices of Country Produce in this Market.

We find that there has been no alteration in the prices of produce since we issued our last number, except in the articles of Flour and Whiskey; which may be attributed to the circumstances of the navigation of our port being closed at present by ice. Flour is now selling at \$3.75 per barrel, and Whiskey at 28 to 30 cents per gallon.

Red Clover, Orchard Grass, AND MILLET SEED.

The growth of 1820, of excellent quality, received and for sale by

ELI BALDERSTON,
No. 91 Smith's wharf.

For information to those wishing to cultivate the Millet, I subjoin a copy of Merrick Reeder's letter, (of New Hope, Penn.) on the subject. E. B.

"ESTEEMED FRIEND, Ebenezer P. Ross.

Having been requested to state my experience in raising the Millet Grass, I hereby certify that I sowed one bushel of seed on four acres of ground the first of June. I ploughed the ground at the usual time of ploughing for oats, and let it lie until the last week in May, when I ploughed it again and harrowed it twice over, then sowed the seed and harrowed it in by running the harrow once over it lightly. Some of the Millet grew to the height of six feet, but the average height was about four. It was ripe for cutting by the middle of August. I had one hundred and eighteen dozen of sheaves—fourteen dozen of which had been threshed and yielded nine bushels of merchantable seed. Should the residue turn out in the same proportion (of which I have no doubt) I shall have about seventy-five bushels of seed from the bushel sowed and six tons of hay. I put a small quantity of the Millet Hay into a rack together with an equal quantity of Timothy Hay well got. The horse eat the Millet out first. I have since fed nothing but Millet hay to my working Cattle, and they eat it voraciously.

MERRICK REEDER."

1st mo. 12th, 1821.

BALTIMORE,

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BY JOHN S. SKINNER EDITOR.